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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Kemp, et al.

Serial No.: 09/500,473

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Art Unit: 1761

Examiner: Robert A. Madsen

For: **ACIDIC SOLUTION OF SPARINGLY-SOLUBLE GROUP IIA
COMPLEXES**

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RESPONSE

Responsive to the Office Action dated May 6, 2003, and having a shortened statutory period for response expiring August 6, 2003, Applicants respectfully request reconsideration of this Application in view of the following remarks.

Pending in the application are Claims 1 – 13 and 39 - 41.

I. Rejections Under 35 U.S.C. §102**A. U.S. Patent No. 4,369,197 to Basel et al.**

Claims 1 – 4, 6, 7, 9, 11 – 13, and 39 – 41 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,369,197 to Basel et al. ("Basel"). Applicants respectfully assert that

Basel does not disclose every element of these claims and thus does not anticipate the claimed subject matter.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *See Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

Basel does not disclose AGIIS, an acidic sparingly-soluble Group IIA complex. See, Current Application, Claim 1. **Basel's acidic aqueous liquor is composed of a food grade acid, such as hydrochloric acid, either alone or in combination with other acids.** See, Basel, Col. 2, line 60 – Col. 3, line 6. Basel's discussion of adding an alkali hydroxide pertains to neutralization of the acidic aqueous liquor solution when storage of the products is terminated. See, Basel, Col. 5, lines 30 – 36. After Basel adds the neutralizing agent or alkali hydroxide, **the pH of the solution is no longer highly acidic.** By contrast, **a solution or suspension of AGIIS is acidic by definition and retains its high acidity despite the use of Group IIA material.** See, Specification, Page 9, lines 10 – 18 and Page 11, line 22 – Page 12, line 5. Thus, Basel does not disclose a solution or suspension of AGIIS, which is an element of each of the claims of the current application.

For these reasons, Basel does not anticipate Claims 1 – 4, 6, 7, 9, 11 – 13, and 39 – 41.

B. U.S. Patent No. 4,830,862 to Braun et al.

Claims 1, 2, 5, 6, 12, 13, 39, and 40 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,830,862 to Braun et al. ("Braun").

Applicants respectfully assert that Braun does not anticipate the claimed subject matter because Braun does not disclose AGIIS, nor a solution or suspension of AGIIS in contact with a nutrient material. AGIIS is an acidic sparingly-soluble Group IIA complex and a solution of AGIIS is isolated from a mixture of a mineral acid and a Group IIA material. See, Specification, Summary and Claim 2. Solutions or suspensions of AGIIS are highly acidic and may be useful as a preservative. See, Specification, Summary. Braun is directed to the supplementation of beverages

with solubilized calcium, edible acid to provide stability against precipitation of insoluble calcium salts, and sulfate/chloride to reduce aftertaste. See, Braun, Col. 5, lines 6 – 25; Col. 5, lines 53 – 58; and Col. 6, lines 48 – 51. **The components of Braun's composition do not form an acidic sparingly-soluble Group IIA complex.** Thus, Braun does not disclose AGIIS or a solution or suspension of AGIIS which is then absorbed or adsorbed by a nutriment.

In addition, Braun does not disclose the use of sulfuric acid, nor the properties of reduced sucrose charring and corrosion resistance. Thus, Braun does not anticipate Claim 40.

For these reasons, Braun does not anticipate Claims 1, 2, 5, 6, 12, 13, 39, and 40.

C. U.S. Patent No. 4,983,409 to Nasu

Claims 1, 2, 5, 6, 12, 13, and 39 – 41 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,983,409 to Nasu (“Nasu”).

Applicants respectfully assert that Nasu does not anticipate the claims because Nasu does not disclose a solution or suspension of AGIIS. A solution or suspension of AGIIS is highly acidic and isolated from a mixture of a mineral acid with a Group IIA material. See, Specification, Summary and Claim 2. By contrast, **Nasu discloses “ion water” with a basic pH.** See, Nasu, Col. 3, lines 10 – 35. If anything, Nasu is the antithesis of the present invention.

Thus, Nasu does not anticipate Claims 1, 2, 5, 6, 12, 13, and 39 – 41.

D. U.S. Patent No. 4,064,284 to Theron et al.

Claims 1 – 4, 6, 7, 9, 11 – 13, 39, and 40 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,064,284 to Theron et al. (“Theron”).

Applicants respectfully assert that Theron does not anticipate the claims because Theron does not disclose AGIIS, nor a solution or suspension of AGIIS in contact with a nutriment. Theron discloses a method for debranning wheat using an “acid medium.” The “acid medium” of Theron

consists of acid alone and **does not contain Group IIA material**. See, Theron, Col. 2, lines 27 – 39. By contrast, **AGIIS is an acidic sparingly-soluble Group IIA complex**. See, Specification, Summary. In addition, Theron’s “acid medium” is washed from the treated wheat or neutralized using an alkaline solution. See, Theron, Col. 2, line 56 to Col. 3, line 29. Thus, Theron does not disclose a nutriment contacted with acidic AGIIS.

For these reasons, Theron does not anticipate Claims 1 – 4, 6, 7, 9, 11 – 13, 39, and 40.

E. European Patent Application Publication No. 0584976 to Kearns et al.

Claims 1, 5, 6, 12, 13, 39, and 40 stand rejected under 35 U.S.C. §102(b) as being anticipated by European Patent Application Publication No. 0584976 to Kearns et al. (“Kearns”).

Applicants respectfully assert that Kearns does not anticipate the claims because **Kearns does not disclose a solution or suspension of AGIIS**. Kearns discloses a calcium citrate reaction product which may be used as a coating for dried fruits. See, Kearns, Page 2, lines 46 – 48. Kearns’ calcium citrate product is in the form of crystals. See, Kearns, Page 3, lines 52 – 54. By contrast, Claim 1 specifically requires that the AGIIS be in a solution or suspension.

Thus, Kearns does not anticipate Claims 1, 5, 6, 12, 13, 39, and 40.

F. Japanese Patent No. 358179436 to Tenmiyo et al.

Claims 1 – 4, 6, 7 – 9, 11 – 13, 39, and 40 stand rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent No. 358179436 to Tenmiyo et al. (“Tenmiyo”).

Applicants respectfully assert that Tenmiyo does not anticipate the claims because Tenmiyo does not disclose AGIIS, nor a nutriment material in contact with a solution or suspension of AGIIS. **Tenmiyo discloses a method for preparing a soybean material in which an alkaline solution is mixed with acid until a solution of approximately neutral pH is obtained**. See, Tenmiyo, Purpose. By contrast, **a solution or suspension of AGIIS is highly acidic and isolated from a**

mixture of a mineral acid and a Group IIA material. See, Specification, Summary. Furthermore, the soybean material of Tenmiyo is collected as the precipitate of the neutralization reaction. See, Tenmiyo, Constitution, final line. Thus, Tenmiyo does not disclose a nutriment material with a solution or suspension of AGIIS absorbed or adsorbed because Tenmiyo's soybean material is removed from solution as a byproduct.

For these reasons, Tenmiyo does not anticipate Claims 1 – 4, 6, 7 – 9, 11 – 13, 39, and 40.

G. U.S. Patent No. 6,024,994 to Jacobsen et al.

Claims 1, 2, 12, 13, and 39 – 41 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,024,994 to Jacobsen et al. ("Jacobsen").

Applicants respectfully assert that Jacobsen does not anticipate the claims because Jacobsen does not disclose AGIIS. A solution or suspension of AGIIS is highly acidic and isolated from a mixture of a mineral acid and a Group IIA material. See, Specification, Summary. By contrast, **Jacobsen discloses a calcium complex used for fortification of foods with calcium.** See, Jacobsen, Field of Invention. Jacobsen's calcium complex uses an alkaline source in order to neutralize the pH of the complex. See Jacobsen, Col. 2, lines 32 – 34. **After Jacobsen adds calcium hydroxide, the final pH of the calcium complex is neutral.** By contrast, a solution or suspension of AGIIS is acidic by definition and retains its high acidity despite the use of Group IIA material. See, Specification, Page 9, lines 10 – 18 and Page 11, line 22 – Page 12, line 5. Thus, Jacobsen does not disclose AGIIS.

For these reasons, Jacobsen does not anticipate Claims 1, 2, 12, 13, and 39 – 41.

H. U.S. Patent No. 6,086,927 to Frielich et al.

Claims 1 – 9, 11 – 13, 39, and 40 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,086,927 to Frielich, et al. ("Frielich").

Applicants respectfully assert that Frielich does not anticipate the claims because Frielich does not disclose AGIIS. AGIIS is an acidic sparingly-soluble Group IIA complex. See, Specification, Summary. A solution or suspension of AGIIS is highly acidic and isolated from a mixture of a mineral acid and a Group IIA material. See, Specification, Summary and Claim 2. **Frielich is directed to a process for enriching foods with calcium.** See, Frielich, Col. 1, lines 7 – 9. **Frielich uses a phosphorus-based acid to substantially neutralize the pH of a calcium hydroxide and water mixture.** See, Frielich, Col. 2, lines 24 – 26. Thus, Frielich does not disclose AGIIS, an acidic sparingly-soluble Group IIA complex.

For these reasons, Frielich does not anticipate Claims 1 – 9, 11 – 13, 39, and 40.

II. Rejection Under 35 U.S.C. §103(a)

Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Frielich. The Examiner asserts that, although Frielich does not teach the mole ratio of sulfuric acid to calcium hydroxide within Claim 10, this range would be obvious in view of Frielich.

Applicants respectfully assert that the mole ratio of Claim 10 would not be obvious in view of Frielich because Frielich is directed to a process using an entirely different mole ratio of components. As stated above, **Frielich is directed to a process for enriching foods with calcium using a mixture with a substantially neutral pH.** See, Frielich, Col. 1, lines 7 – 9 and Col. 2, lines 24 – 26. The Examiner asserts that Frielich teaches the selection of levels of calcium hydroxide and sulfuric acid based on the desired level of calcium and the desired flavor. However, **Claim 10 pertains to a nutriment treated with a solution or suspension of AGIIS, a highly acidic solution which may be useful as a preservative.** Levels of calcium and desired flavor are not relevant to the current invention. Thus, a person of skill in the art would not be motivated by the disclosure of Frielich to use the mole ratio of Claim 10.

For these reasons, Claim 10 is patentable over Frielich.

III. Conclusion

Applicants respectfully submit that, in light of the foregoing comments, Claims 1 – 13 and 39 – 41 are in condition for allowance. A Notice of Allowance is therefore requested.

If the Examiner has any other matters which pertain to this Application, the Examiner is encouraged to contact the undersigned to resolve these matters by Examiner's Amendment where possible.

Respectfully submitted,



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